

FIGURE 1

AFP E1a and E1b Adenovirus Constructs

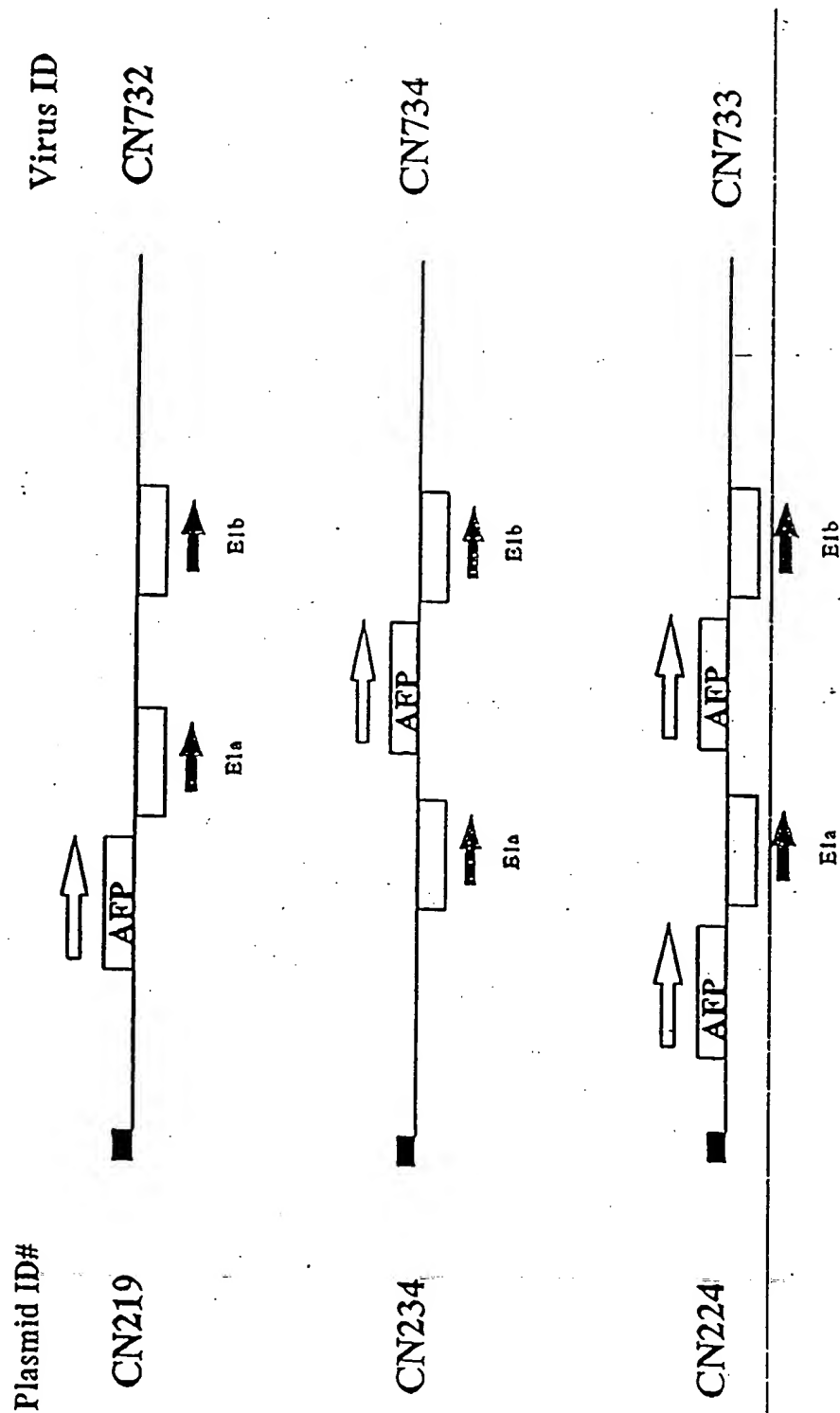


FIGURE 2A

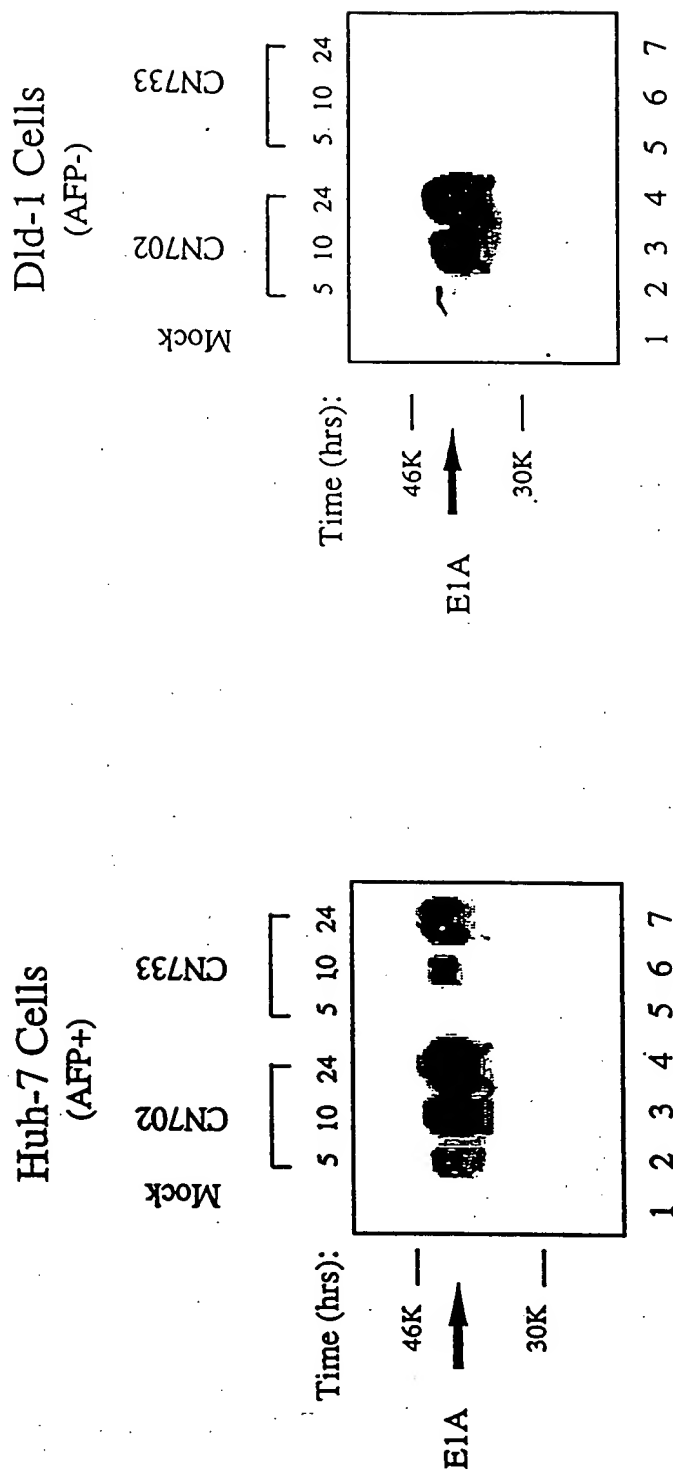


FIGURE 2B

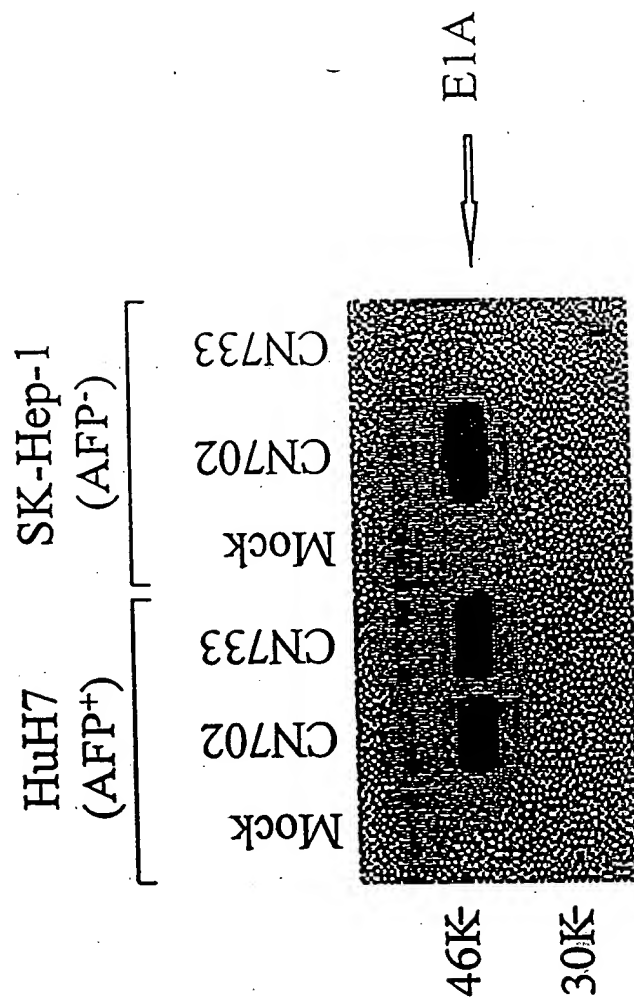


FIGURE 3A

Huh-7
(AFP+)

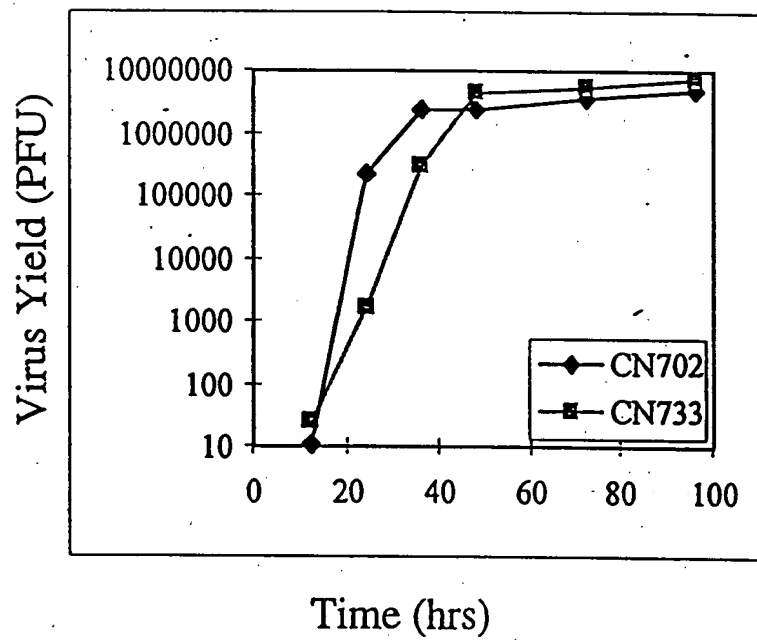


FIGURE 3B

Sk-Hep-1
(AFP-)

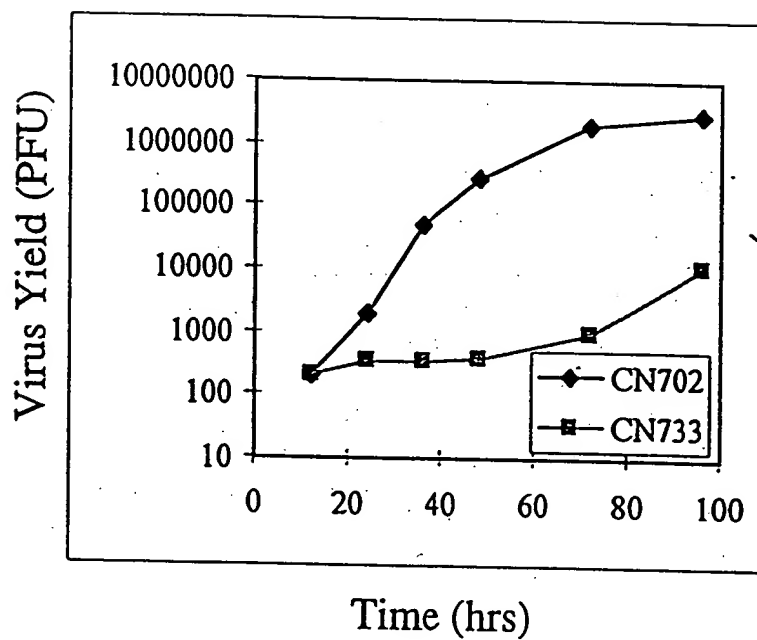


FIGURE 3C

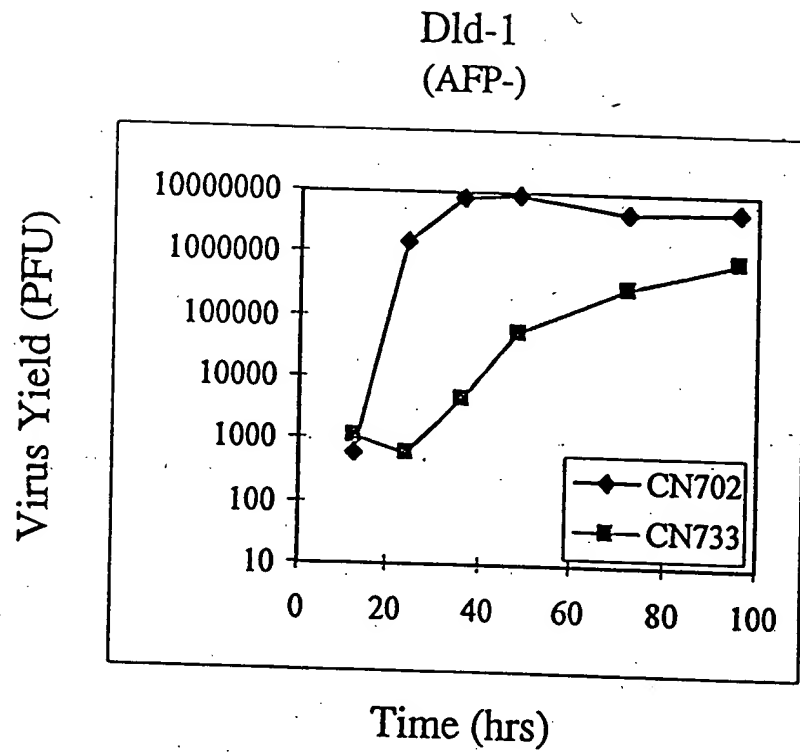


FIGURE 4A

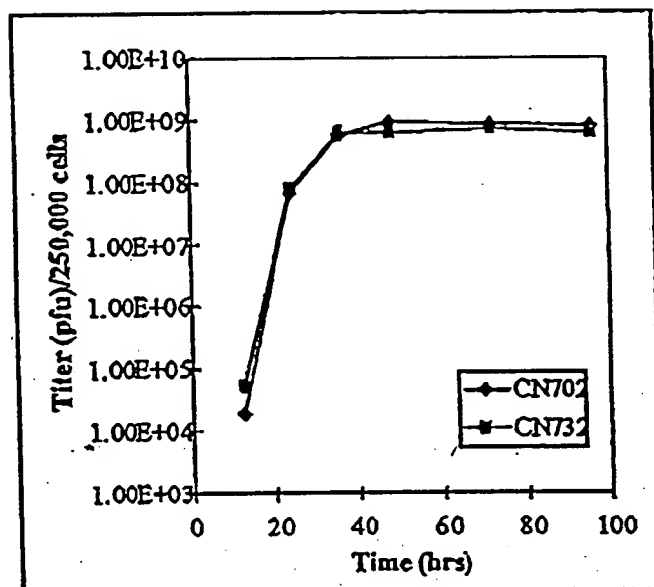


FIGURE 4B

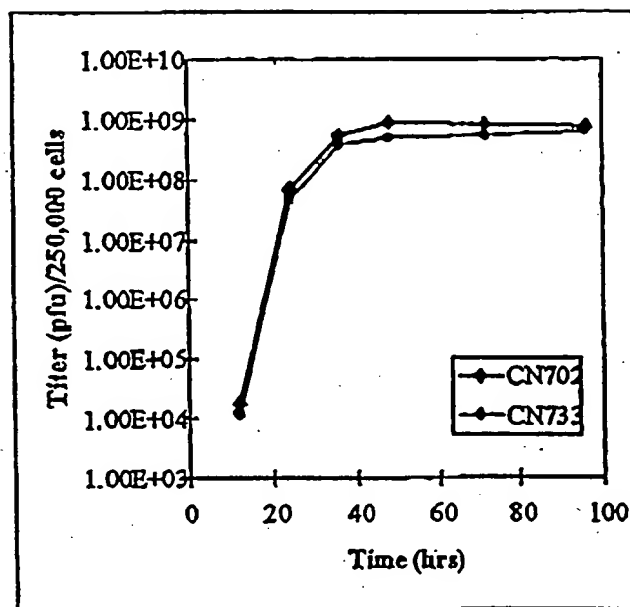


FIGURE 4C

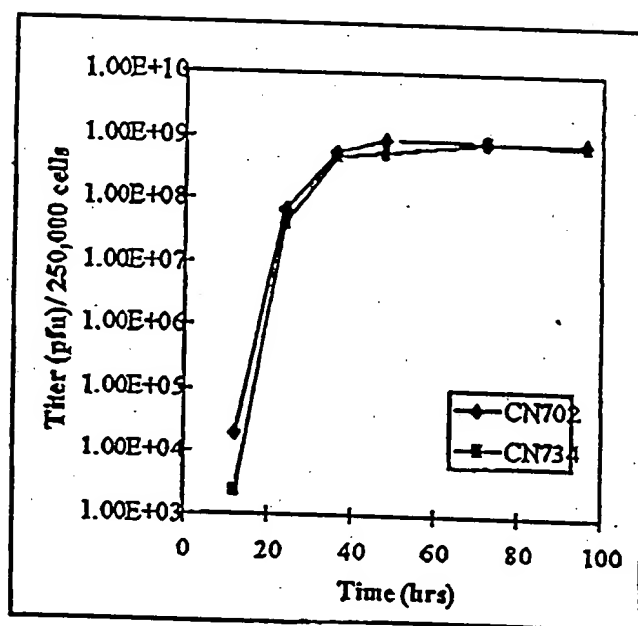


FIGURE 5A

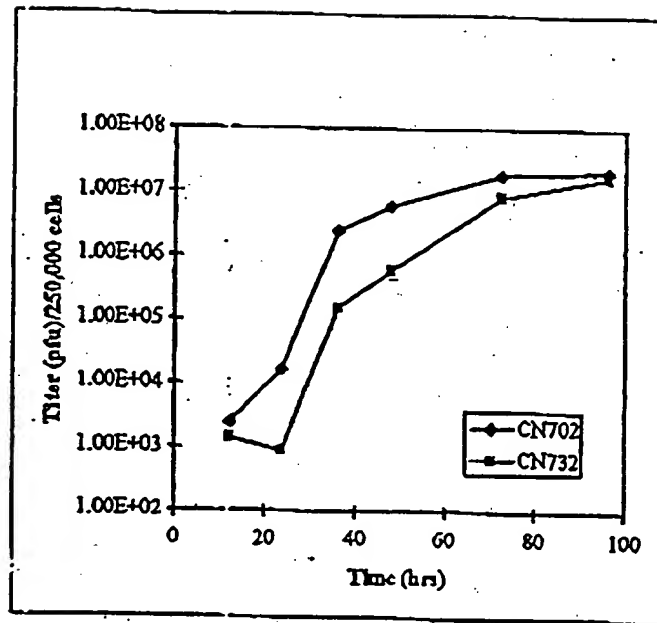


FIGURE 5B

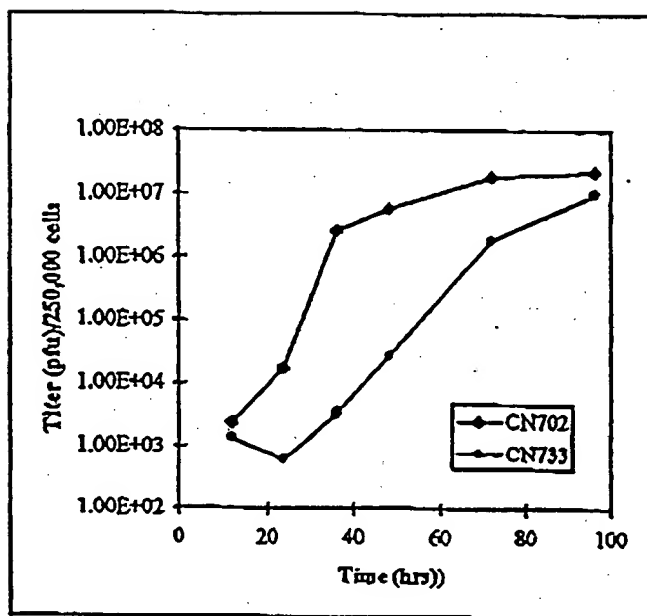


FIGURE 6A

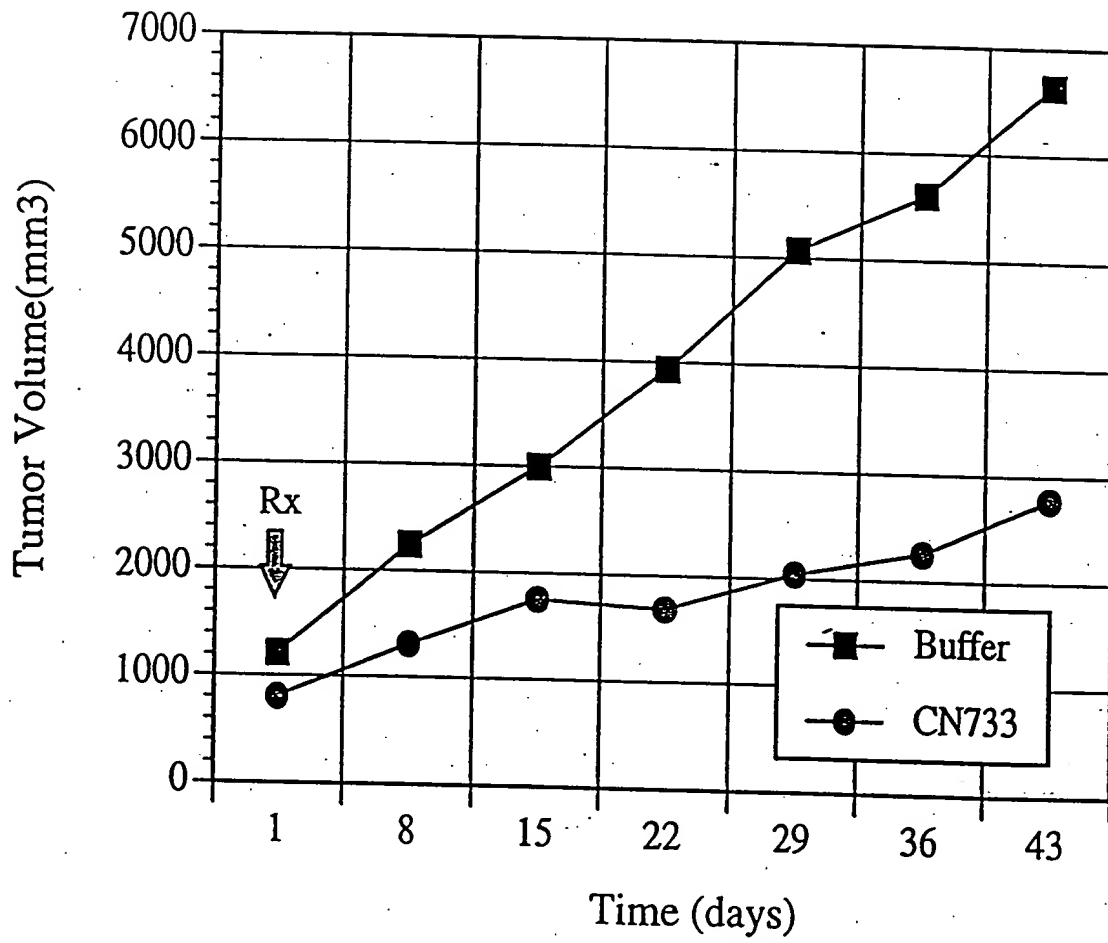
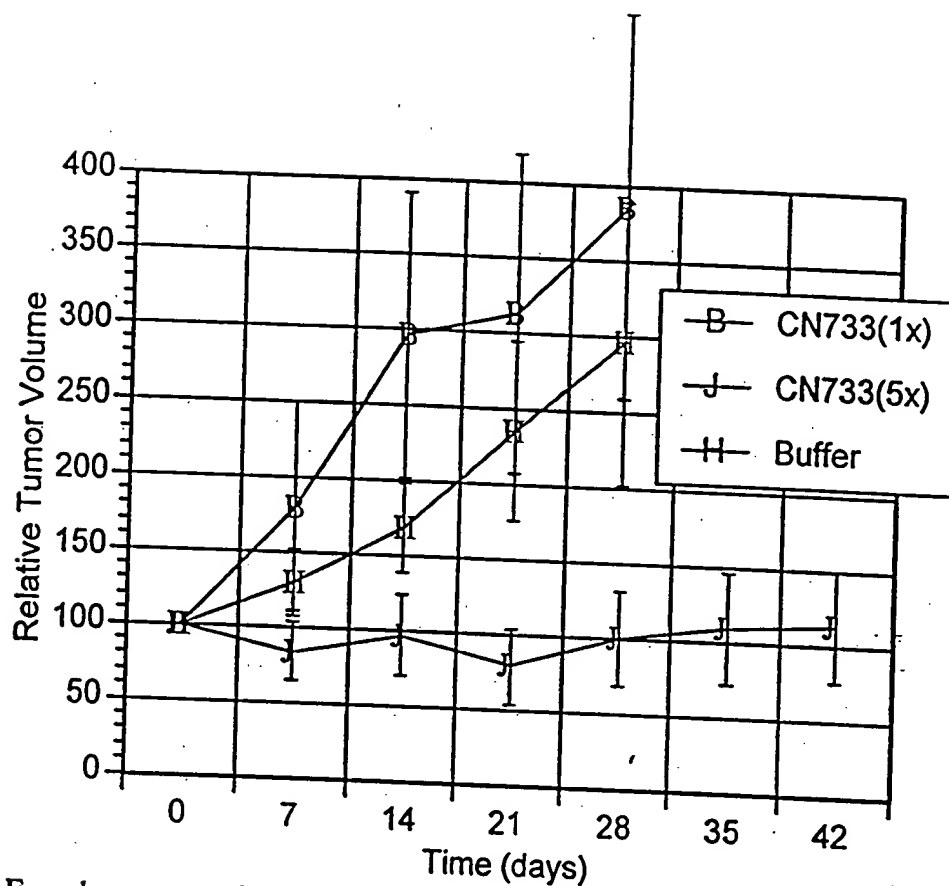


FIGURE 6B



Error bars = standard error

Animals from groups treated with a single dose of CN733 and buffer were sacrificed at 28 days because of excessive tumor burden

FIGURE 7

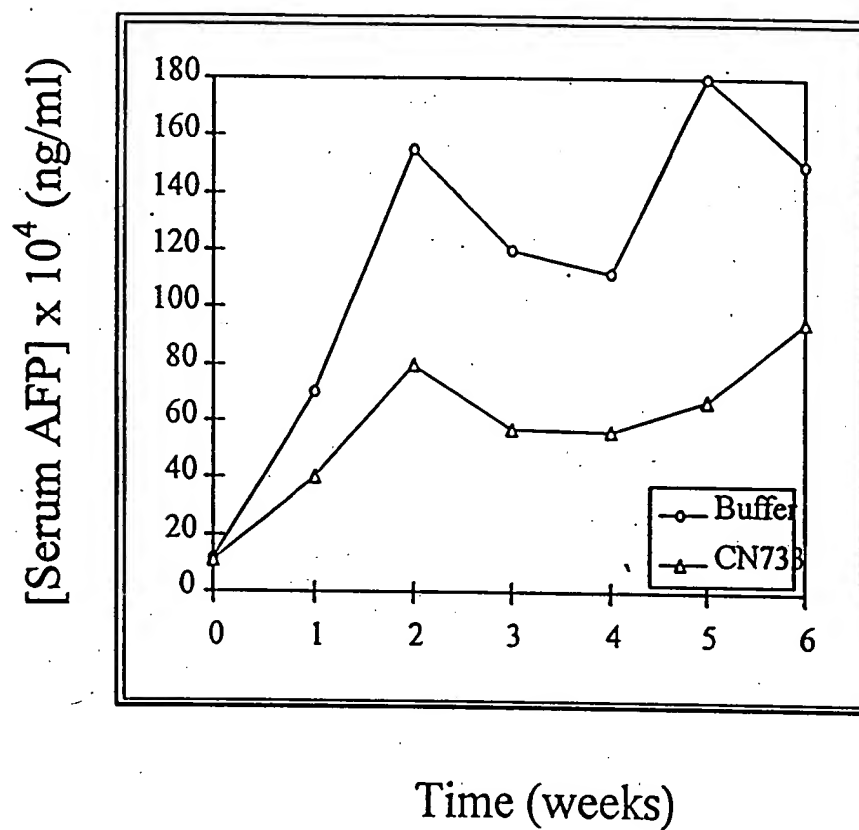
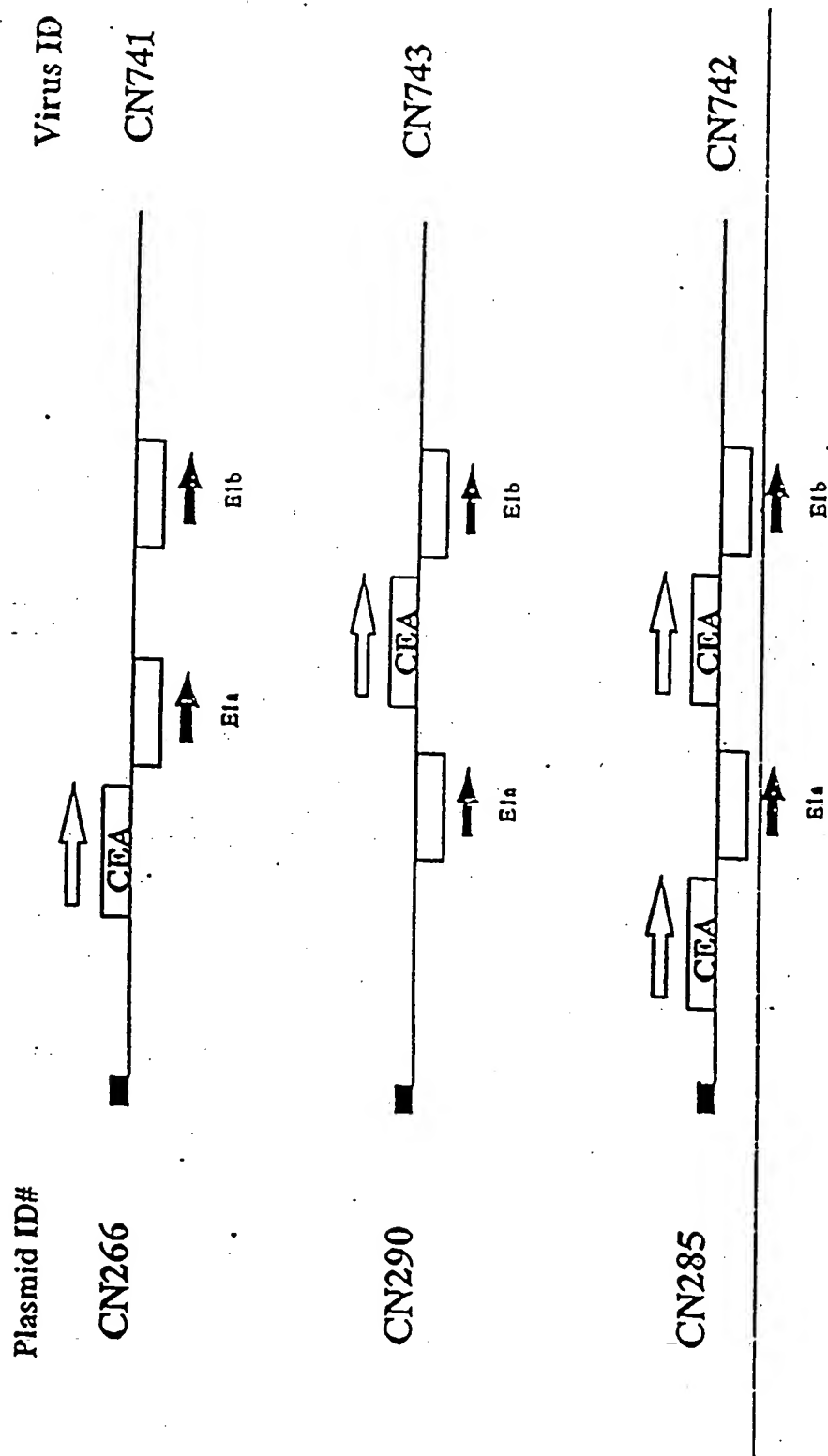


FIGURE 8

CEA E1a and E1b Adenovirus Constructs



any data may differ from the data shown in the figure

Plasmid ID#

Virus ID

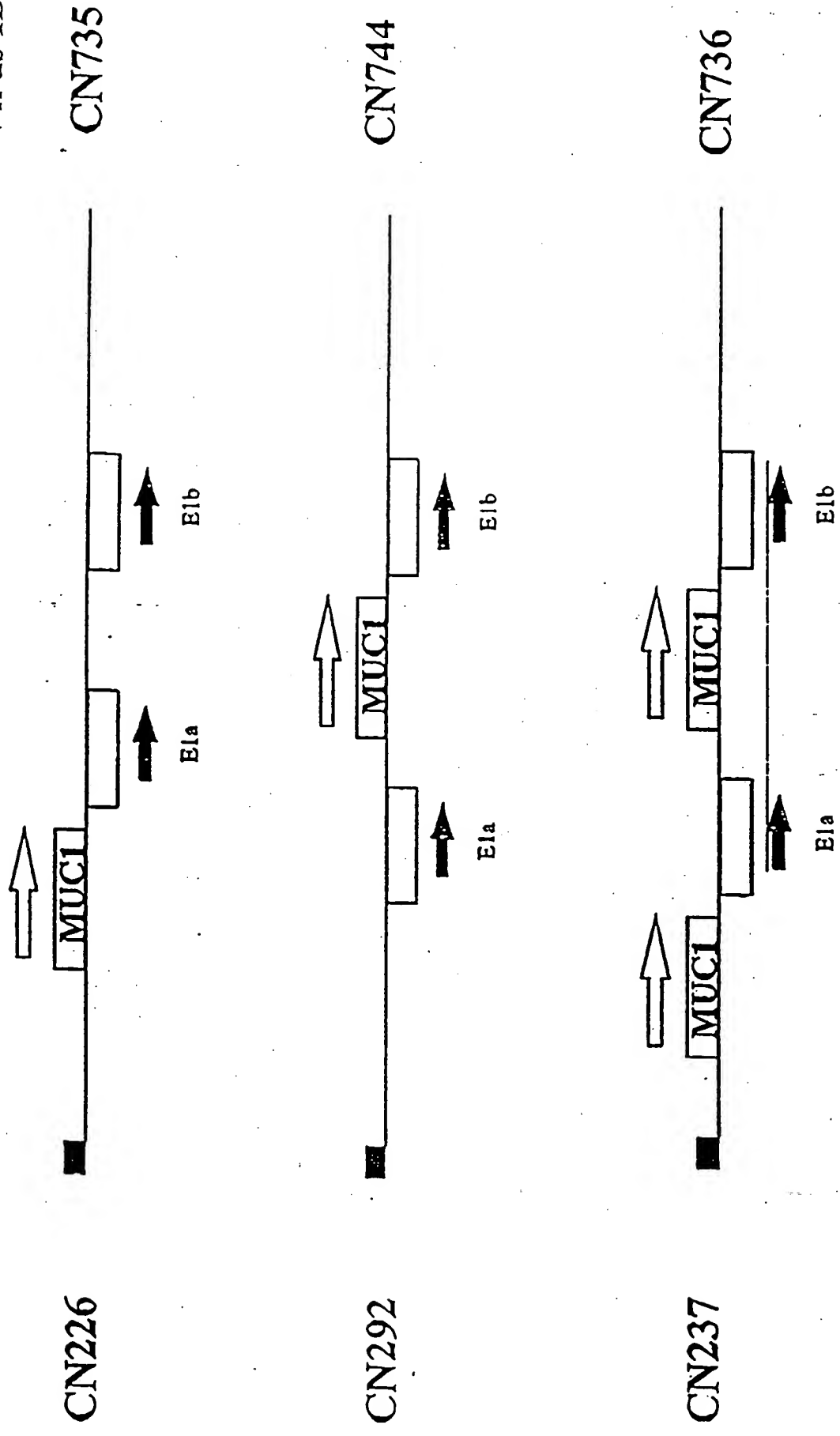


FIGURE 9

-426

5'-AAGCTTCCACAAGTGCATTTAGCCTCTCCAGTATTGCTGATGAATCCACAGT
TCAGGTTCAATGGCGTTCAAACTTGATCAAAAATGACCAGACTTTATATTCTTA
CACCAACATCTATCTGATTGGAGGAATGGATAATAGTCATCATGTTTAAACATCT
ACCATTCCAGTTAAGAAAATATGATAGCATCTTGTCTTAGTCTTTTCTTAATA

ARE-1

GGGACATAAAGCCCACAAATAAAAATATGCCTGAAGAATGGGACAGGCATTGG
GCATTGTCCATGCCTAGTAAAGTACTCCAAGAACCTATTGTATACTAGATGACA

ARE-2

CAATGTCAATGTCTGTGTACAACCTGCCAAGTGGGATGCAAGACACTGCCCATG

+1

CAATCATCCTGAAAAGCAGCTATAAAAAGCAGGAAGCTACTCTGCACCTT

CAAT box

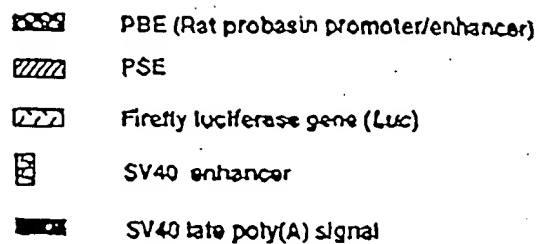
TATAA box

Transcription site

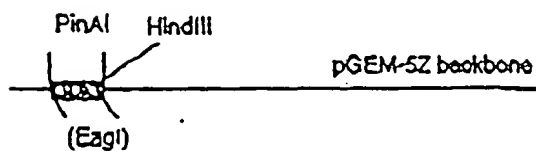
+26

GTCAGTGAGGTCCAGATACCTACAG-3'

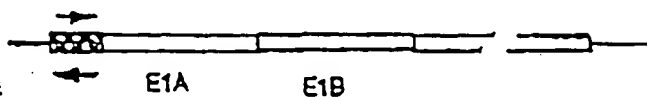
FIGURE 10



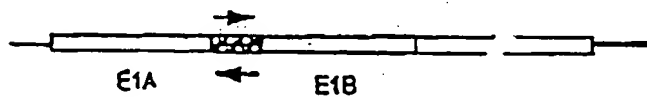
CN249
 (CN250)
 CN256
 CN271



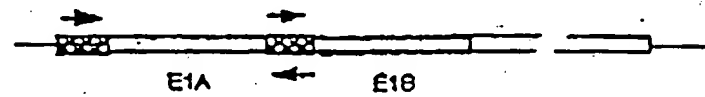
CN251
 CN253



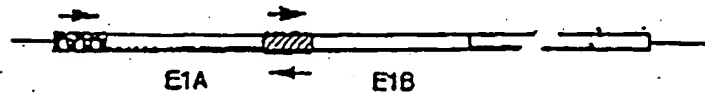
CN254 (CN275)
 CN255 (CN276)



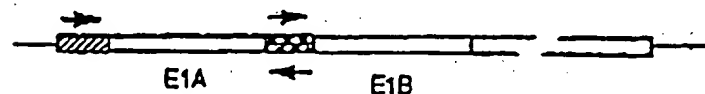
CN268
 CN269



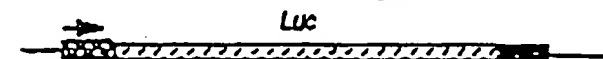
CN257
 CN258



CN273
 CN274



CN280



CN281

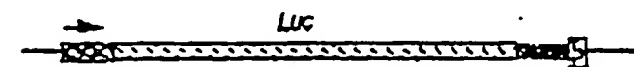


FIGURE 11

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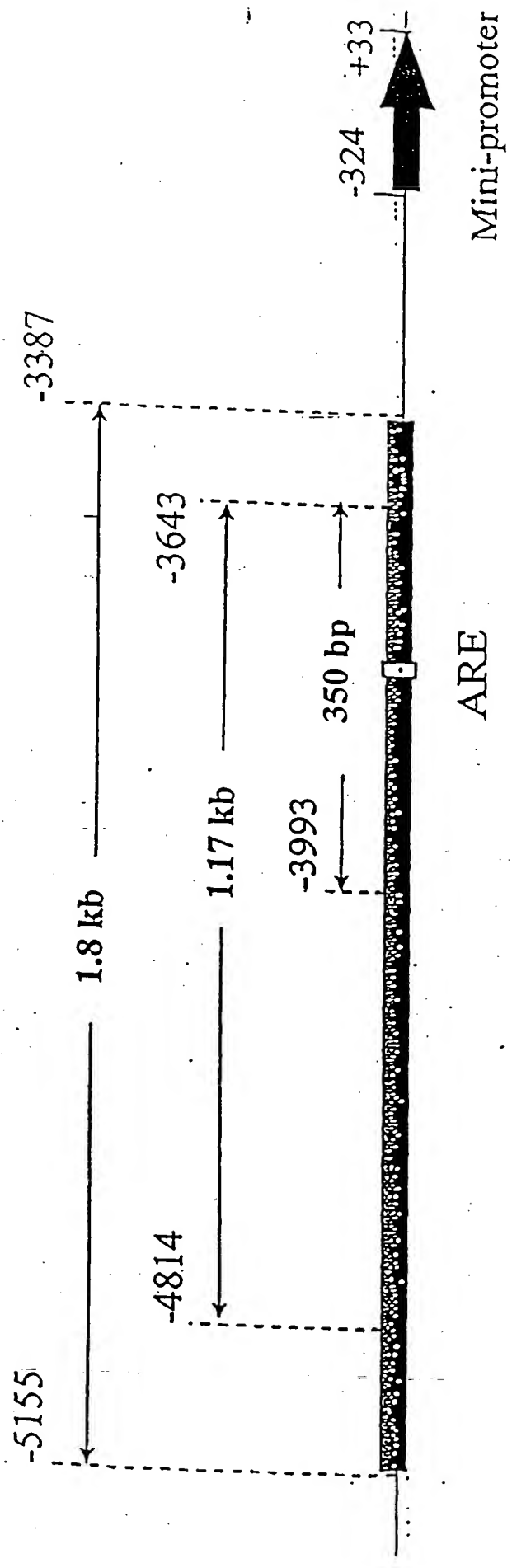


FIGURE 12

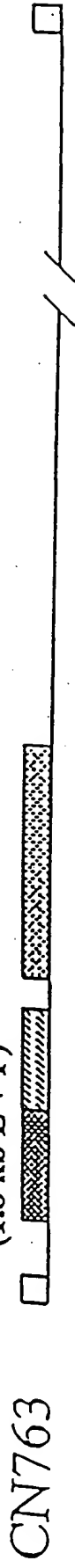
hKLK2 P



E1A E1B



hKLK2
(1.8 kb E + P)



hKLK2
(1.17 kb E + P)

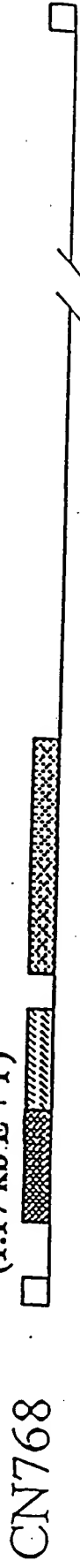


FIGURE 13

FIGURE 14A

aagcttttta gtgctttaga cagtgaactg gtctgtctaa cccaagtgaac ctgggctcca	60
tactcagccc cagaagtga ggggtgaagct ggggtggagcc aaaccaggca agcctaccct	120
cagggctccc agtggcctga gaaccattgg acccaggacc cattacttct agggtaagga	180
aggtacaaac accagatcca accatgggtct ggggggacag ctgtcaaata cctaaaaata	240
tacctgggag aggagcaggc aaactatcac tgccccaggt tctctgaaca gaaacagagg	300
ggcaacccaa agtccaaatc caggtgagca ggtgcaccaa atgcccagag atatgacgag	360
gcaagaagtg aaggaaccac ccctgcatca aatgttttgc atgggaagga gaaggggggtt	420
gctcatgttc ccaatccagg agaatgcatt tgggatctgc cttcttctca ctccttggtt	480
agcaagacta agcaaccagg actctggatt tggggaaaga cgtttatttg tggaggccag	540
tgatgacaat cccacgaggg cctaggtgaa gagggcagga aggctcgaga cactgggggac	600
tgagtgaata ccacacccat gatctgcacc acccatggat gctccttcat tgctcacctt	660
tctgttgata tcagatggcc ccattttctg taccttcaca gaaggacaca ggctagggtc	720
tgtgcatggc cttcatcccc ggggccatgt gaggacagca ggtgggaaag atcatgggtc	780
ctcctgggtc ctgcagggcc agaacattca tcaccatac tgacctccta gatgggaatg	840
gcttccctgg ggctgggcca acggggcctg ggcaggggag aaaggacgtc aggggacagg	900
gaggaagggt catcgagacc cagcctggaa ggttcttgtc tctgaccatc caggatttac	960
ttccctgcat ctacctttgg tcattttccc tcagcaatga ccagctctgc ttctgatct	1020
cagcctccca ccctggacac agcaccacag tccctggccc ggctgcatcc acccaatacc	1080
ctgataaccc aggaccatt acttctaggg taaggagggt ccaggagaca gaagctgagg	1140
aaaggctctga agaagtcaca tctgtcctgg ccagagggga aaaaccatca gatgctgaac	1200
caggagaatg ttgaccacag aaagggaccg aggaccaag aaaggagtca gaccaccagg	1260
gtttgcctga gaggaaggat caaggccccg agggaaagca gggctggctg catgtgcagg	1320
acactgggtg ggcataatgt tcttagattc tccctgaatt cagtgtccct gccatggcca	1380
gactctctac tcaggcctgg acatgctgaa ataggacaat ggccttgtcc tctctcccca	1440
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ccagcctgtc caggcccttc cactctccac tttgtgacca tgtccaggac caccctcag	1620
atcctgagcc tgcaaatacc cccttgctgg gtgggtggat tcagtaaaca gtgagctcct	1680

FIGURE 14B

atccagcccc	cagagccacc	tctgtcacct	tctgtctggg	catcatccca	ccttcacaag	1740
cactaaagag	catggggaga	cctggctagc	tgggtttctg	catcacaag	aaaataatcc	1800
cccaggttcg	gattcccagg	gctctgtatg	tggagctgac	agacctgagg	ccaggagata	1860
gcagaggtca	gcctaggga	gggtgggtca	tccacccagg	ggacaggggt	gcaccagcct	1920
tgctactgaa	agggcctccc	caggacagcg	ccatcagccc	tgctgagag	ctttgctaaa	1980
cagcagtcag	aggaggccat	ggcagtggct	gagctcctgc	tccaggcccc	aacagaccag	2040
accaacagca	caatgcagtc	cttccccaac	gtcacaggtc	accaaaggga	aactgaggtg	2100
ctacctaacc	ttagagccat	caggggagat	aacagcccaa	tttcccaaac	aggccagttt	2160
caatcccatg	acaatgacct	ctctgtcttc	attcttccca	aaataggacg	ctgattctcc	2220
cccaccatgg	atttctccct	tgtcccggga	gccttttctg	cccctatga	tctgggcact	2280
cctgacacac	acctcctctc	tgggtgacata	tcagggtccc	tcactgtcaa	gcagtccaga	2340
aaggacagaa	ccttggacag	cgcccatctc	agcttcaccc	ttctccttc	acagggttca	2400
gggcaaagaa	taaatggcag	aggccagtga	gccagagat	ggtgacaggc	agtgacccag	2460
gggcagatgc	ctggagcagg	agctggcggg	gccacaggga	gaaggtgatg	caggaaggga	2520
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cggggttcag	atggagaagg	agcaggacag	gggatcccca	ggataggagg	accccagtgt	2760
ccccaccag	gcaggtgact	gatgaatggg	catgcagggt	cctcctgggc	tgggctctcc	2820
ctttgtccct	caggattcct	tgaaggaaca	tccggaagcc	gaccacatct	acctggtggg	2880
ttctggggag	tccatgtaaa	gccaggagct	tgtgttgcta	ggaggggtca	tggcatgtgc	2940
tgggggcacc	aaagagagaa	acctgagggc	aggcaggacc	tggtctgagg	aggcatggga	3000
gccagatgg	ggagatggat	gtcaggaaag	gctgccccat	cagggagggt	gatagcaatg	3060
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tcacaacctg	gggacactgc	ccatgaaggg	gcgcctttgc	ccagccagat	gctgctgggt	3180
ctgcccatcc	actacctct	ctgctccagc	cactctgggt	ctttctccag	atgccctgga	3240
cagccctggc	ctgggcctgt	cccctgagag	gtgttgggag	aagctgagtc	tctggggaca	3300
ctctcatcag	agtctgaaag	gcacatcagg	aaacatccct	ggtctccagg	actaggcaat	3360

FIGURE 14C

gaggaaaggg cccagctcc tccctttgcc actgagaggg tgcaccctgg gtggccacag	3420
tgactttctgc gtctgtccca gtcaccctga aaccacaaca aaaccccagc cccagaccct	3480
gcaggtacaa tacatgtggg gacagtctgt acccagggga agccagttct ctcttcctag	3540
gagaccgggc ctcagggctg tgcccggggc aggcgggggc agcacgtgcc tgtccttgag	3600
aactcgggac ctttaagggtc tctgctctgt gaggcacagc aaggatcctt ctgtccagag	3660
atgaaagcag ctcttgcccc tcctctgacc tcttcctcct tcccaaactct caaccaacaa	3720
ataggtgttt caaatctcat catcaaactct tcatccatcc acatgagaaa gcttaaaacc	3780
caatggattg acaacatcaa gagttggaac aagtggacat ggagatgtta cttgtggaaa	3840
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gatgatctca cacatagagt tgaaagaaag gagtcaatcg cagaatagaa aatgatcact	4080
aattccacct ctataaagtt tccaagagga aaacccaatt ctgctgctag agatcagaat	4140
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aatgtgccgt atcttaactct gggcagggct ttcatgagca cataggaatg cagacattac	4260
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acgcctgtaa tcccagcact ttagaaggct gaggtgggca gattacttga ggtcaggagt	4380
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cttggaacca ggaagcagag gttgcagtga gccaagattg tgccactgca ctccagcttg	4560
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aacagaagca atttggcctt cctaaaattc cacatcatat catcatgatg gagacagtgc	5040
agacgccaat gacaataaaa agagggacct ccgtcaccgg gtaaacatgt ccacacagct	5100

FIGURE 14D

ccagcaagca cccgtcttcc cagtgaatca ctgtaacctc ccctttaatc agccccaggc	5160
aaggctgcct gcgatggcca cacaggctcc aaccctggg cctcaacctc ccgcagaggc	5220
tctccttttg ccaccccatg gggagagcat gaggacaggg cagagccctc tgatgccac	5280
acatggcagg agctgacgcc agagccatgg gggctggaga gcagagctgc tggggtcaga	5340
gcttcctgag gacaccagc cctaaggga ggcagctccc tggatgggg caaccaggct	5400
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gactctgagg ggaccctgac acgacaggat cgctgaatgc acccgagatg aaggggccac	5520
cacgggaccc tgctctcgtg gcagatcagg agagagtggg acaccatgcc agggcccat	5580
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gttaaagtga tcaaattccc tcaccatgag agctcacctg tgtgtaggcc catcacacac	5880
acaaacacac acacacacac acacacacac acacacacac acagggaaag tgcaggatcc	5940
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ttcctgcagc agctgcacag acacaggagc cccatgact gccctgggc aggggtgga	6360
ttccaaattt cgtgccccat tgggtgggac ggaggtgac cgtgacatcc aaggggcatc	6420
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tatctcaaat tccctaagca caagctagca ccctttaaat caggaagttc agtcactcct	6540
ggggtcctcc catgccccca gtctgacttg caggtgcaca ggggtggctga catctgtcct	6600
tgctcctcct cttggctcaa ctgccgccc tctgggggt gactgatgtt caggacaagg	6660
gacctagag ctggcccat gattgacagg aaggcaggac ttggcctcca ttctgaagac	6720
taggggtgtc aagagagctg ggcattccac agagctgcac aagatgacgc ggacagagg	6780

FIGURE 14E

tgacacaggg ctcagggctt cagacggggtc gggagggtca gctgagagtt cagggacaga	6840
cctgaggagc ctcagtggga aaagaagcac tgaagtggga agttctggaa tgttctggac	6900
aagcctgagt gctctaagga aatgctccca ccccgatgta gcctgcagca ctggacggtc	6960
tgtgtacctc cccgctgccc atcctctcac agccccgcc tctagggaca caactcctgc	7020
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tgcggtcagg aggatcacac gtcccccat gccaggggga ctgactctgg gggatgatga	7200
ttggcctgga ggccactgggt cccctctgtc cctgagggga atctgcaccc tggaggctgc	7260
cacatccctc ctgattcttt cagctgaggg cccttcttga aatcccaggg aggactcaac	7320
ccccactggg aaaggcccag tgtggacgggt tccacagcag ccagctaag gcccttggac	7380
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ccccaatgac gtgaccctg ggggtggctcc aggtctccag tccatgccac caaaatctcc	7560
agattgaggg tcctcccttg agtccctgat gcctgtccag gagctgcccc ctgagcaaat	7620
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atcactgatc tacgtcagtc tctaaaagtg actcatcagc gaaatccttc acctcttggg	8160
agaagaatca caagtgtgag aggggtagaa actgcagact tcaaatctt tccaaaagag	8220
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accacaactg gaatgacact cactgggtta cattacaaag tggaatgtgg ggaattctgt	8400
agactttggg aagggaatg tatgacgtga gccacagcc taaggcagtg gacagtccac	8460
tttgaggctc tcaccatcta ggagacatct cagccatgaa catagccaca tctgtcatta	8520

FIGURE 14F

gaaaacatgt tttattaaga ggaaaaatct aggctagaag tgctttatgc tcttttttct	8580
ctttatgttc aaattcatat acttttagat cattccttaa agaagaatct atccccctaa	8640
gtaaatgtta tcactgactg gatagtgttg gtgtctcact cccaaccctt gtgtgggtgac	8700
agtgccctgc ttcccagcc ctgggcctc tctgattcct gagagcttg ggtgctcctt	8760
cattaggagg aagagaggaa ggggtgtttt aatattctca ccattcaccc atccacctct	8820
tagacactgg gaagaatcag ttgccactc ttggatttga tctcgaatt aatgacctct	8880
atctctgtcc cttgtccatt tcaacaatgt gacaggccta agaggcctt tctccatgtg	8940
atttttgagg agaaggttct caagataagt tttctcacac ctctttgaat tacctccacc	9000
tgtgtcccca tcaccattac cagcagcatt tggaccctt ttctgttagt cagatgcttt	9060
ccacctcttg aggggtgtata ctgtatgctc tctacacagg aatatgcaga ggaaatagaa	9120
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taaaatccta agagagccca tataaaatta ttaccagtgc taaaactaca aaagttacac	9240
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agaccctgc accaatgaga ccatgctgaa gcctcagaga gagagatgga gctttgacca	10140
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FIGURE 14G

acaccagtgt	ctaagcccct	gatgagaaca	gggtggtctc	tcccatatgc	ccataccagg	10260
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aaatatagtg	gtgaggatgt	agaatattgt	gaatataatt	aacggcattt	aattgtacac	10800
ttaacatgat	taatgtggca	tattttatct	tatgtatttg	actacatcca	agaaacactg	10860
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ggagtgaaga	gtgaggttga	cttgtccctg	ctcctctctg	ctaccccaac	attcaccttc	11940

FIGURE 14H

tcctcatgcc cctctctctc aaatatgatt tggatctatg tccccgccca aatctcatgt	12000
caaattgtaa accccaatgt tggaggtggg gccttgtag aagtgattgg ataatgcggg	12060
tggattttct gctttgatgc tgtttctgtg atagagatct cacatgatct ggttgtttaa	12120
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acgttcctgt ttccccttca ccgtccagaa tgattgtaag ttttctgagg cctccccagg	12240
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FIGURE 14I

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FIGURE 15A

aagcttctag ttttcttttc ccggtgacat cgtggaaagc actagcatct ctaagcaatg 60
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FIGURE 15B

catattgtat cgattgtcct tgacagtaaa caaatctgtt gtaagagaca ttatctttat 1740
tatctaggac agtaagcaag cctggatctg agagagatat catcttgcaa ggatgcctgc 1800
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FIGURE 15C

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FIGURE 15D

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ccccagcccc aagctt 5836

FIGURE 16A

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 gaaaggaggg gaggaggaaa gttcctgcag gtctggtttg gtcttgtgat ccaggggggc 660
 ttggaactat ttaaattaaa ttaaattaaa acaagcgact gttttaaatt aaattaaatt 720
 taattaaatt ttactttatt ttatcttaag ttctgggcta catgtgcagg acgtgcagct 780
 ttgttacata ggtaaactg tgccatgggt gtttctgtga cctatcaacc catcacctag 840
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 ggttgcatag aaattgtttt taaaaatcca attgatattg tatttaatta caagttaatc 1140
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 tagaaatatt attggcaaag cttaaattgt aaaagtccca gagagaaagg atggcagaaa 1620
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FIGURE 16B

gcagctgtag ccttttctag ataatacact attgtcatac atcgcttaag cgagtgtaaa 1740
atgggtctcct cactttattt atttatatat ttatttagtt ttgagatgga gcctcgctct 1800
gtctcctagg ctggagtgca atagtgcgat accactcact gcaacctctg cctcctctgt 1860
tcaagtgatt ttcttacctc agcctcccga gtagctggga ttacaggtgc gtgccaccac 1920
acccggctaa tttttgtatt tttttagag acggggtttt gccatgttg ccaggctggt 1980
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FIGURE 16C

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FIGURE 16D

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FIGURE 16E

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FIGURE 16F

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FIGURE 16G

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FIGURE 16H

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12000 12001 12002 12003 12004 12005 12006 12007 12008 12009 12010 12011 12012 12013 12014 12015 12016 12017 12018 12019 12020 12021 12022 12023 12024 12025 12026 12027 12028 12029 12030 12031 12032 12033 12034 12035 12036 12037 12038 12039 12040 12041 12042 12043 12044 12045 12046 12047

FIGURE 17

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FIGURE 18

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tgcaagacac tgcccatgcc aatcatcctg aaaagcagct ataaaaagca ggaagctact 420
ctgcaccttg tcagtgaggt ccagatacct acag 454

g atg acc ggc tca acc atc gcg ccc aca acg gac tat cgc aac acc act	49
Met Thr Gly Ser Thr Ile Ala Pro Thr Thr Asp Tyr Arg Asn Thr Thr	
1 5 10 15	
gct acc gga cta aca tct gcc cta aat tta ccc caa gtt cat gcc ttt	97
Ala Thr Gly Leu Thr Ser Ala Leu Asn Leu Pro Gln Val His Ala Phe	
20 25 30	
gtc aat gac tgg gcg agc ttg gac atg tgg tgg ttt tcc ata gcg ctt	145
Val Asn Asp Trp Ala Ser Leu Asp Met Trp Trp Phe Ser Ile Ala Leu	
35 40 45	
atg ttt gtt tgc ctt att att atg tgg ctt att tgt tgc cta aag cgc	193
Met Phe Val Cys Leu Ile Ile Met Trp Leu Ile Cys Cys Leu Lys Arg	
50 55 60	
aga cgc gcc aga ccc ccc atc tat agg cct atc att gtg ctc aac cca	241
Arg Arg Ala Arg Pro Pro Ile Tyr Arg Pro Ile Ile Val Leu Asn Pro	
65 70 75 80	
cac aat gaa aaa att cat aga ttg gac ggt ctg aaa cca tgt tct ctt	289
His Asn Glu Lys Ile His Arg Leu Asp Gly Leu Lys Pro Cys Ser Leu	
85 90 95	
ctt tta cag tat gat taa	307
Leu Leu Gln Tyr Asp	
100	

FIGURE 19